SOV/20-121-4-28/54

A Catalytic Synthesis of Unsaturated Hydrocarbons of the Series C_4, Labelled by the Radioactive Carbon C^{14}, With the Use of Vapor Phase Distributive X-Ray Chromatography

This paper discusses a special case of the general principle of the synthesis of labelled molecules. This principle consists of the carrying out of a group synthesis (which gives a mixture of some substances with an unusual isotopic composition) and of the subsequent application of physical-chemical separation methods. Especially interesting is the separation of the labelled hydrocarbons of the C_4 series with various degrees of saturation and with various structural-isomeric shapes. Such hydrocarbons are butadiene (divinyl), α-butylene, β-butylene (cis-variant), β-butylene (trans-variant). The catalytic synthesis was carried out by means of S. V. Lebedev's catalyst at 390°. A labelled ethyl alcohol $C^{14}H_3C^{14}H_2OH$ with the specific radioactivity 0,724 Curie/ml was used for the synthesis. The chromatographic separation of the marked gaseous labelled products is then discussed. A figure shows a typical chromatogram of the mixture of the gaseous radioactive products of the synthesis of divinyl from

Card 2/4

A Catalytic Synthesis of Unsaturated Hydrocarbons of the Series C_4, Labelled by the Radioactive Carbon C^{14}, With the Use of Vapor Phase Distributive X-Ray Chromatography

the labelled alcohol ($C_2^{14}H_5OH$). According to this chromatogram, the main gaseous product is divinyl (81,3 %). The percentage of butylene is not higher than 4.7 %. The composition of the products may be changed by a heat treatment of the catalyst. The specific activities of the hydrocarbons have approximately the same values. In order to identify the individual fractions, their infrared absorption spectra were taken; they are shown by a figure. The combination of chromatography with rectification, extraction and with a counterflow distribution is very promising. These methods are very productive and may be used for the preliminary group separation of a mixture into some fractions with a subsequent extraction of the individual components. The catalytic experiment takes 1 hour and the chromatographic separation - 2 - 2,5 hours. There are 4 figures and 9 references, 7 of which are Soviet.

SOV/20-121-4-28/54

A Catalytic Synthesis of Unsaturated Hydrocarbons of the Series C_4, Labelled by the Radioactive Carbon C^{14}, With the Use of Vapor Phase Distributive X-Ray Chromatography

ASSOCIATION: Institute fizicheskoy khimii Akademii nauk SSSR
(Institute of Physical Chemistry, AS USSR)

SUBMITTED: April 16, 1958

Card 4/4

S/020/60/133/006/031/031XX
B004/B067

AUTHORS: Zhabrova, G. M., Vladimirova, V. I., and Vinogradova, O. M.

TITLE: Mechanism of the Effect of Modifying Additions on the Selectivity of Zinc Oxide With Respect to the Dehydrogenation and Dehydration of Isopropyl Alcohol

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 6, pp. 1375-1378

TEXT: In Refs. 1-5 the authors had found that the sorption of micro-impurities strongly influences the selectivity and catalytic activity of ZnO during the dehydrogenation and dehydration of isopropyl alcohol. Therefore, they attempted to explain this effect by comparing the data of reaction kinetics, chemosorption, and electron characteristics in ZnO containing certain admixtures. ZnO was modified with Na_2O and Li_2O by soaking the oxide with alkali oxalates and by heating to 450 - 500°C. Modifying with $ZnSO_4$ was done by soaking ZnO with sulfate solution. The specific surface was determined by adsorption of n-heptane by a

Mechanism of the Effect of Modifying Additions on the Selectivity of Zinc Oxide With Respect to the Dehydrogenation and Dehydration of Isopropyl Alcohol

S/020/60/133/006/031/031XX
B004/B067

chromatographic method developed at the catalysis laboratory of the authors' association, as well as by adsorption of krypton according to Brunauer, Emmet, and Teller. The results obtained by both methods were in good agreement. The effect of the admixtures on the dehydrogenation of isopropyl alcohol is shown in Fig. 1. During dehydration, the admixtures showed the contrary effect: Na_2O suppressed, and $ZnSO_4$ increased, the rate of this reaction. The following values were obtained for the desorption of acetone from the surface of ZnO: pure ZnO: 32 kcal/mole; ZnO with 14.5% $ZnSO_4$: 41 kcal/mole, ZnO with 6.2% Na_2O: 10 kcal/mole. Fig. 3 shows the work function $\Delta\varphi$ as depending on the content of admixtures. By simultaneously measuring the work function and the electrical conductivity in the presence of vapors of isopropyl alcohol, acetone, water, hydrogen, or propylene at 10 mm Hg and 100°C the following was found: Sorption of isopropyl alcohol and acetone lowers the work function; other vapors had no effect. Hence, a donor-acceptor process is assumed for the dehydrogenation of isopropyl alcohol, which proceeds in the following

Card 2/5

Mechanism of the Effect of Modifying Additions on the Selectivity of Zinc Oxide With Respect to the Dehydrogenation and Dehydration of Isopropyl Alcohol

S/020/60/133/006/031/031XX
B004/B067

stages: $(CH_3)_2CHOH \longrightarrow (CH_3)_2CHOH^+ + e$ (I); $(CH_3)_2CHOH^+ \longrightarrow (CH_3)_2CO^+ + H_2$ (II); $(CH_3)_2CO^+ + e \longrightarrow (CH_3)_2CO$ (III). The slow stage III limits the rate of reaction. Dehydration, however, is regarded as an acid-type process characterized by proton exchange between the catalyst and the reacting molecule. F. I. Vilesov, A. N. Terenin, E. Kh. Yenikeyev, L. Ya. Margolis, and S. Z. Roginskiy are mentioned. There are 3 figures, 1 table, and 15 references: 12 Soviet, 2 US, 1 British, and 1 German.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of Physical Chemistry of the Academy of Sciences USSR)

PRESENTED: March 21, 1960 by M. M. Dubinin, Academician

SUBMITTED: March 8, 1960

Card 3/5

S/020/60/133/006/031/031/X
B004/B067

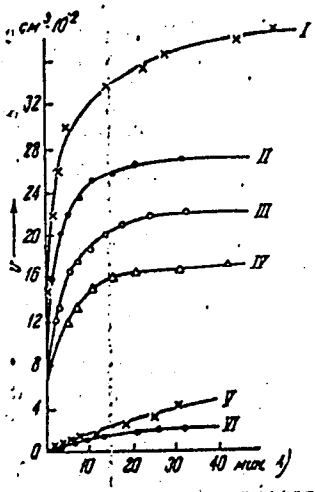


Fig. 1

Legend to Fig. 1: Kinetic curves of the dehydrogenation of isopropyl alcohol on modified ZnO; I: ZnO + 0.114% Na_2O; II: ZnO + 0.38% Na_2O; III: ZnO + 3.1% Li_2O; IV: ZnO + 6.2% Na_2O; V: pure ZnO; VI: ZnO + 14.5% $ZnSO_4$ 1) min.

Card 4/5

S/020/60/133/006/031/031XX
B004/B067

Legend to Fig. 3: Work function for ZnO as dependent on the modifying admixtures.

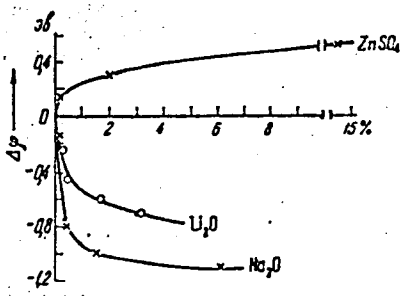


Fig. 3

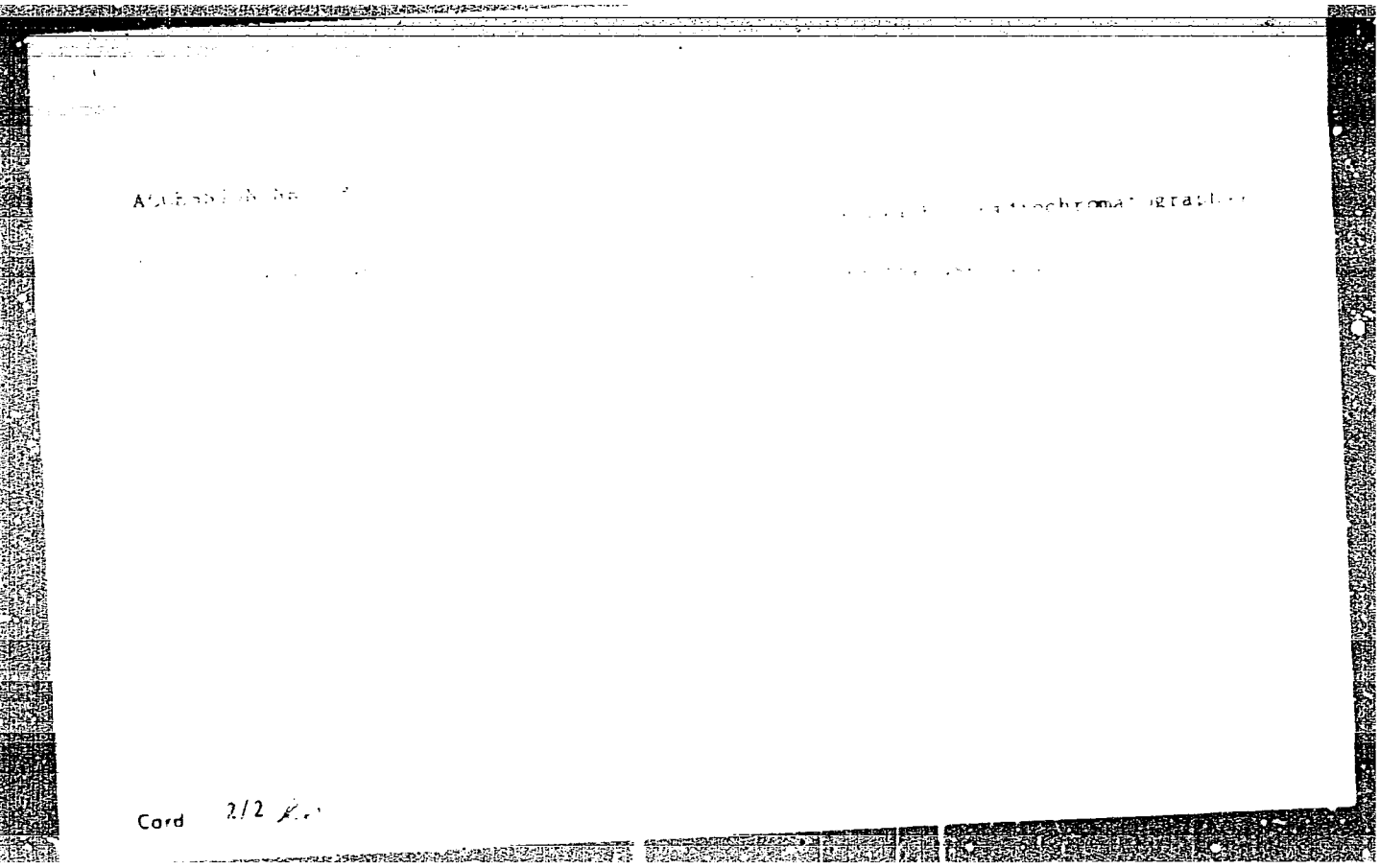
Card 5/5

L 28627-65 EWT(m) KM

AUTHOR: Roginskiy, S. Z.; Krivoruchko, O. P.

ABSTRACT: The article describes [illegible] displacement, quasi-displacement, and displacement by the target product - used [illegible] Results of the use of the ga-

Card 1/2



Card 2/2

VINOGRADOVA, O.M.

Rheumatoid aortic heart defect. Ter. arkh. 35 no.4:103-106 Ap'63 (MIRA 17:1)

1. Iz terapevticheskoy kliniki (dir.- prof. Ye.M. Tareyev) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova.

ANDROSOVA, S.O.;APROSINA, Z.G.; BEZRODNYKH, A.A.; VERMEL', A.Ye.; VINOGRADOVA, O.M.; LEVITSKIY, E.R.; MAKARENKO, I.I.; MAKSHANOV, D.A.; POLYANTSEVA, L.R.; SUMAROKOV, A.V.; SHATALOV, N.N.; SHAPIRO, L.A.; TAREYEV , Ye.M., prof., red.; MEL'NIKOV, Ye.B., red.

[Occupational diseases] Professional'nye bolezni; uchebnoe posobie dlia studentov sanitarno-gigienicheskikh fakul'tetov. Pod red. E.M.Tareeva. Moskva, 1963 p. 223 p. (MIRA 16:6)

1. Moscow. Pervyy meditsinskiy institut. 2. AMN SSSR (for Tareyev).

(OCCUPATIONAL DISEASES)

VINOGRADOVA, O.M.

"Periarteritis nodosa" by R.V. Volevich. Reviewed by O.M. Vinogradova. Sov. med. 25 no.4:156-157 Ap '62. (MIRA 15:6)
(ARTERIES—DISEASES)
(VOLEVICH, R.V.)

AL'TSHUIER, O.V.; VINOGRADOVA, O.M.; ROGINSKIY, S.Z.; YANOVSKIY, M.I.

Production of high purity hydrocarbons by means of heat displacing chromatography. Dokl. AN SSSR 140 no.6:1307-1309 O '61. (MIRA 14:11)

1. Institut khimicheskoy fiziki AN SSSR. 2. Chlen-korrespondent AN SSSR (for Roginskiy).

(Hydrocarbons)

29818
S/020/61/140/006/015/030
B103/B101

5.5600

AUTHORS: Al'tshuler, O. V., Vinogradova, O. M., Roginskiy, S. Z., Corresponding Member AS USSR, and Yanovskiy, M. I.

TITLE: Preparation of high-purity hydrocarbons by the method of thermo-desorption chromatography

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 140, no. 6, 1961, 1307-1309

TEXT: The applicability of thermo-desorption chromatography to preparative uses was studied. Isolation and purification of propylene was selected as example. The methods were studied by M. I. Yanovskiy, S. N. Oziraner, and Lu P'ei - chang (ZhPKh, 33, 1084 (1960)). The laboratory apparatus used consisted of adsorption columns connected in series, which were filled with the same or different sorbents. After a certain section of the adsorption layer had been saturated by the mixture of the gases to be separated, the columns were immersed gradually into an oven heated to 200-220°C. It was not possible to obtain complete desorption of propylene

Card 1/4

Preparation of high-purity ...

at temperatures below 200°C. At higher temperatures, secondary reactions may occur in the heated zone. Gas samples were taken at the column outlet and their composition was determined chromatographically. Helium was used as inert carrier gas. A katharometer or an ionization detector with a Pm source were used to detect the components of the mixture. Coarse and close-grained silica gels and alumo gels of various types as well as active carbon were used as adsorbents. 10 - 20 liters of the mixture could be separated with a sorbent volume of 1 liter and a temperature of -20 to -30°C of the cold section of the column. The content of propylene in the initial mixtures was varied from 25 to 98%. Moreover, they contained different volumes of ethane, propane, ethylene, acetylene, and hydrocarbons boiling higher than propylene, as well as H_2O and sulfur-containing compounds. First, the partition capacity of the sorbents for the mixture of propylene and one of these components was determined. It was characterized by the ratio $V_{R\,comp}/V_{R\,C_3H_6}$. Based on these values ($V_{R\,rel}$) suitable sorbents and their sequence for isolating the propylene from the mixture were selected. The effect of the sorbents is shown in Table 1.

Card 2/4

29818
S/020/61/140/006/015/030
B103/B101

Preparation of high-purity ...

Sorbent	admixture to be removed
active carbon	heavy hydrocarbons (boiling point > 50°C), CS_2, mercaptans, acetylene, ethylene, ethane, H_2S
silica gel	propane, carbon sulfochloride, ethane, ethylene, CS_2
alumo gel	ditto + CH_2 and H_2O

It has been established that the less sorbable components, such as air, ethane, ethylene, and propane, concentrate in the first fractions; thereafter, only propylene is found at the column outlet. In the ultimate gas samples desorbed by heating the column end, admixtures were found which were more intensively sorbed than propylene. The use of the highly sensitive detector revealed that the admixture of propane, the separation of which from propylene is most difficult, can be reduced to traces. Thus, it is possible to obtain pure propylene even from initial mixtures poor in propylene.

Card 3/4

Preparation of high-purity ...

The purification coefficients do not become worse, when passing to the range of propylene with very low admixture concentrations. This is an advantage of the present alternative as compared with the rectification, since it ensures a very high degree of purification. Unlike in development chromatography, the components are isolated undilute in thermo-desorption chromatography. Moreover, this method can be applied to obtain further components of the mixture in pure state (e. g., benzene, cyclohexane). The paper by Ye. V. Vagin, Gazovaya khromatografiya, Tr. I Vsesoyuzn. konfer., Izd. AN SSSR, 1960, p. 118, is mentioned. There are 4 figures and 3 Soviet references.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: June 23, 1961

VINOGRADOVA, O. N.

21943 VINOGRADOVA, O. N. NERVNO-[illegible] apparat v stvole bluzhdayushch[illegible] nerva i glaz loshadey. Trudy Kirgiz. s.-kh. in-ta im. Skryabina, vyp. 6, 1[illegible], s. 117-2[illegible]

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1[illegible].

VIHOGRADOVA, O. N.

21942 VIHOGRADOVA, O. N. Innervatsiya znaluzka loshadi blukhlayushchim nervom. Trudy Kirgiz. s.-kh. in-ta im. Skryabina, vyp. 6, 1948, s. 139-47.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

1. VINOGRADOVA, O. N.

2. USSR (600)

4. Digestive Organs—Mammals

7. Receptors of the digestive tract in horses. Arkhiv. anat. gist. i embr. 29 no. 4 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

Vinogradova O.N.

KOFANOV, N.F.; VINOGRADOVA, O.N. (Moskva)

Synestrol and folliculin for treating peptic ulcers. Klin.med. 35 [i.e.34] no.1 Supplement:18-19 Ja '57. (MIRA 11:2)

1. Iz 3-y terapevticheskoy kafedry TSentral'nogo instituta usovershenstvovaniya vrachey i terapevticheskoy kliniki Instituta imeni Sklifosovskogo (zav. kafedroy - deystvitel'nyy chlen AMN SSSR prof. A.N.Kryukov [deceased] nauchnyy rukovoditel' - doktor meditsinskikh nauk S.G.Moiseyev)
(PEPTIC ULCER) (PHENOL) (ESTRONE)

VINOGRADOVA, O.N.

Clinical and anatomical characteristics of myocardial infarction in hypertension. Trudy Inst. im. N.V. Sklif. 5 no.2:17-25 '62.

Characteristics of the electrocardiographic curve in myocardial infarction in hypertensive patients. Ibid.:26-38

(MIRA 18:6)

GERKE, P.Ya., akademik, otv.red.; VINOGRADOVA, O.N., prof., doktor biolog. nauk, red.; BOGOYAVLENSKIY, K.S., prof., doktor biolog.nauk, red.; TSINOVSKIY, Ya.P., doktor biolog.nauk, red.; DEMIDOVA, V.K., kand.med.nauk, red.; BAZHANOVA, S., red.; BOKMAN, R., tekhn.red.

[Problems in cytology, histology and embryology] Voprosy tsitologii, gistologii i embriologii. Riga, Izd-vo Akad.nauk Latviiskoi SSR, 1960. 278 p. (MIRA 15:5)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu akademija Biologijas instituts. 2. AN Latviyskoy SSR (for Gerke). 3. Institut eksperimental'noy meditsiny Akademii nauk Latviyskoy SSR (for Gerke, Demidova). 4. Latviyskaya sel'skokhozyaystvennaya akademiya (for Vinogradova). 5. Gel'mintologicheskaya laboratoriya Akademii nauk SSSR (for Bogoyavlenskiy). 6. Institut biologii Akademii nauk Latviyskoy SSR (for TSinovskiy).
(CYTOLOGY) (HISTOLOGY) (EMBRYOLOGY)

VINOGRADOVA, O.P.

Statistical characteristics of turbulent wind flow over the sea.
Okeanologiia 4 no.1:27-35 '64. (MIRA 17:4)

1. Morskoy gidrofizicheskiy institut AN UkrSSR.

VINOGRADOVA, O.P.

Intensity of turbulent exchange and the roughness parameter of the surfacte of the sea. Trudy MGI 20:44-50 '60. (MIRA 13:10)
(Atmospheric turbulence) (Waves)

L 21214-66 EWT(1)/FCC GW

ACC NR: AP6011948 SOURCE CODE: UR/0213/65/005/006/1084/1088

AUTHOR: Vinogradova, O. P.; Postnova, I. D.

ORG: Marine Hydrophysical Institute, AN UkrSSR, Sevastopol (Morskoy gidrofizicheskiy institut AN UkrSSR)

TITLE: Some results of investigation of the wind flow over the sea by two methods

SOURCE: Okeanologiya, v. 5, no. 6, 1965, 1084-1088

TOPIC TAGS: wind, wind velocity, wind meter, anemometer, oscillograph

ABSTRACT: In the study of the characteristics of wind flow by different instruments the problem arises of the comparability of the results obtained by these instruments. The Marine Hydrophysical Institute has made repeated measurements of mean wind velocity and its fluctuations with a sensor in the form of a platinum filament with a diameter of 0.02 mm, recorded on the tape of a magnetoelectric oscillograph, and a cup anemometer with recording on an oscillograph tape. Using the thermoanemometer, with an inertia of about 0.01 sec, it was possible to obtain records of fluctuations of wind velocity with a frequency approximately up to 10-30 cps, while by means of cup anemometers with an inertia of about 1 sec it was possible to record wind velocity fluctuations with an upper frequency limit of several tens of cps. This article reports on the comparison of the results of the two instruments as used in the coastal zone of the Black Sea in September 1960. Measurements were made 2 m above mean sea level. The autocorrelation functions method was used in the comparison. The analysis shows that the autocorrelation functions and the characteristics

Card 1/2 UDC: 551.501: 551.55(26)

associated with them, obtained in the processing of the record of wind velocity fluctuations, measured with a cup anemometer, characterize well the structure of turbulent fluctuations of wind velocity with periods of 1-2 sec or more. [JPRS]

SUB CODE: 04 / SUBM DATE: 25Jul62 / ORIG REF: 003 / OTH REF: 001

VINOGRADOVA, O.S.; SOKOLOV, Ye.N.

Studying the sensitivity of the auditory analysor in children with defective hearing by registering vascular reactions. Probl.fiziol. akust. 3:67-74 '55. (MLRA 9:5)

1. Nauchno-issledovatel'skiy institut defektologii Akademii pedagogicheskikh nauk RSFSR, Moskva.
(DEFECTIVE HEARING IN CHILDREN) (REFLEXES)
(CARDIOVASCULAR SYSTEM)

VINOGRADOVA, O.S.; SOKOLOV, Ye.N.

Extinction of the vascular component of the orientation reaction.
Zhur.vys.nerv.deiat.5 no.3:344-350 My-Je '55. (MLRA 8:10)

1. Institut defektologii Akademii pedagogicheskikh nauk RSFSR.
(ORIENTATION,
extinction of vasc.component of orientation reaction)
(REFLEXES,
extinction of vasc.component of orientation reaction)

VINOGRADOVA, O.S.

Some peculiarities of orientation reactions to stimuli of the second signal system in normal and backward school children. Vop. psikhol. 2 no.6:101-110 N-D '56. (MLRA 10:2)

1. Institut defektologii Akademii pedagogicheskikh nauk, Moskva.
(Reflexes) (Mentally handicapped children)

V-10

VINOGRADOVA, O.S.

USSR/Human and Animal Physiology - The Nervous System.

Abs Jour : Ref Zhur - Biol., No 2, 1958, 8964

Author : O.S. Vinogradova and E.N. Sokolov

Inst :

Title : Correlation of the Vascular Reactions of the Hand and Head in Certain Unconditioned Reflexes in Humans.

Orig Pub : Fiziol. zhurnal SSSR, 1957, 43, No 1, 54-59

Abstract : Plethismogram were simultaneously made of the palm of the hand and of the head (principally in the region of the forehead and temporal artery). The pulse amplitude on both plethismograms was fundamentally the same. Waves of the third order were less marked on the plethismograms. The initial applications of light and sound stimuli produced constriction of the vessels of the palm and dilation of the vessels of the head. When the stimuli were repeated, the vascular reactions disappeared, more rapidly on the head than on the palm. Cold (2-4°) and heat (40-45°)

Sci Res Inst. Histology, Moscow

Card 1/2

Card 2/2

VINOGRADOVA, O. S. and LURIYA, A. R. (Moscow)

"Objective Research of the Sense (Shadings of Meaning) of Communication."

Theses - Conference on Machine Translations, 15 - 21 May 1958, Moscow.

VORONIN, L.G., red.; LEONT'YEV, A.N., red.; LURIYA, A.R., red.; SOKOLOV, Ye.N., red.; VINOGRADOVA, O.S., red.; GOLUBEVA, E.A., red.; TARASOVA, V.V., tekhn.red.

[Orientation reflex and exploratory behavior] Orientirovochnyi refleks i orientirovochno-issledovatel'skaia deiatel'nost'. Moskva, Izd-vo Akad.pedagog.nauk RSFSR, 1958. 350 p. (MIRA 12:2)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. 2. Moskovskiy gosudarstvennyy universitet, Institut defektologii Akademii pedagogicheskikh nauk RSFSR (for Sokolov). 3. Institut defektologii Akademii pedagogicheskikh nauk RSFSR, Moskva (for Vinogradova). (REFLEXES) (ORIENTATION)

VINOGRADOVA, O.S.; EYSLER, N.A.

Systems of word connections discovered through the registration of vascular reactions. Vop.psikhol. 5 no.2:101-116 Mr-Ap '59. (MIRA 12:6)

1. Nauchno-issledovatel'skiy institut defektologii Akademii pedagogicheskikh nauk RSFSR, Moskva (for Vinogradov). 2. Natsional'-nyy nauchno-issledovatel'skiy tsentr, Parizh (for Eysler).
(Conditioned response) (Plethysmography)
(Speech)

LURIYA, A.R.; PEVZNER, M.S.; ZISLINA, N.N.; VINOGRADOVA, O.S.; LUBOVSKIY, V.I.; MESHCHERYAKOV, A.I.; MATYUSHKIN, A.M., red.; LAUT, V.G., tekhn.red.

[Retarded children; studies on characteristics of the higher nervous activity of oligophrenic children] Umstvenno otstalyi rebenok; ocherki izucheniia osobennostei vysshei nervnoi deiatel'nosti detei-oligofrenov. Pod red. A.R.Luriia. Moskva, 1960. 201 p. (MIRA 13:10)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut defektologii.
(MENTALLY HANDICAPPED CHILDREN)

VINOGRADOVA, O.S.

Specific and nonspecific reactions during the formation of conditioned bonds in humans. Zhur. vys. nerv. deiat 10 no. 4:488-496 Jl-Ag '60. (MIRA 14:2)

1. Division of Pathophysiology, Research Institute of Defectology, R.S.F.S.R. Academy of Pedagogical Sciences, Moscow.
(CONDITIONED RESPONSE)

VINOGRADOVA, O.S.; LINDSLEY, D.F.

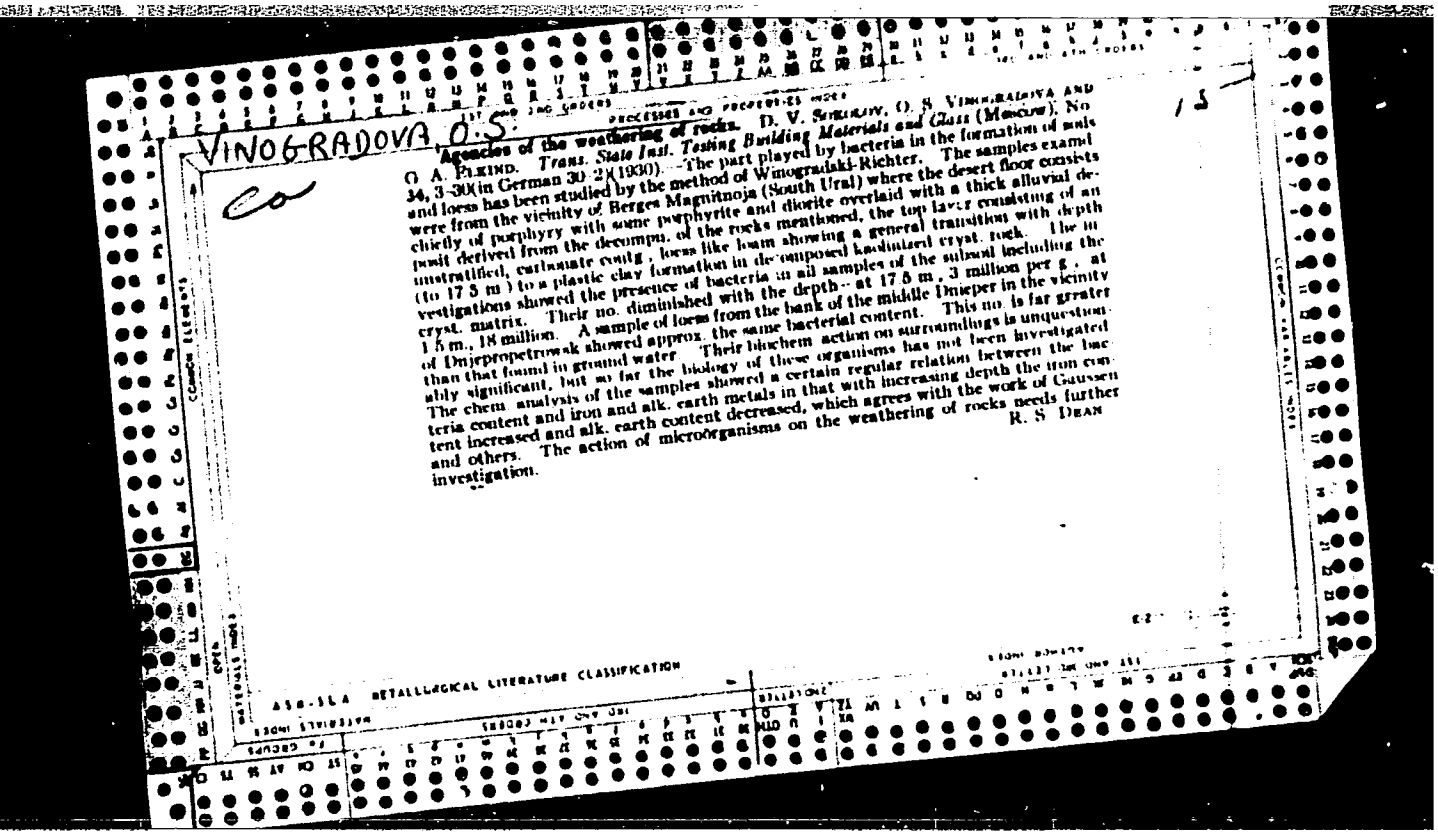
Extinction of reactions to sensory stimuli in a single neuron of the visual cortex in an unanesthetized rabbit. Zhur.vys.nerv. deiat. 13 no.2:207-217 Mr-Ap'63. (MI 16:9)

1. Chair of Physiology of Higher Nervous Activity, Moscow University, Institute of Higher Nervous Activity and Neurophysiology, U.S.S.R. Academy of Sciences, Moscow, and Brain Research Institute, University of California, Los-Angeles.
(CEREBRAL CORTEX) (VISION)

VINOGRADOVA, O.S.

Dynamic classification of responses to sensory stimuli in hippocampal neurons. Zhur. vys. nerv. deiat. 15 no.3:500-512 My-Je '65. (MIRA 18:6)

1. Moscow University, and Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences of the U.S.S.R., Moscow.



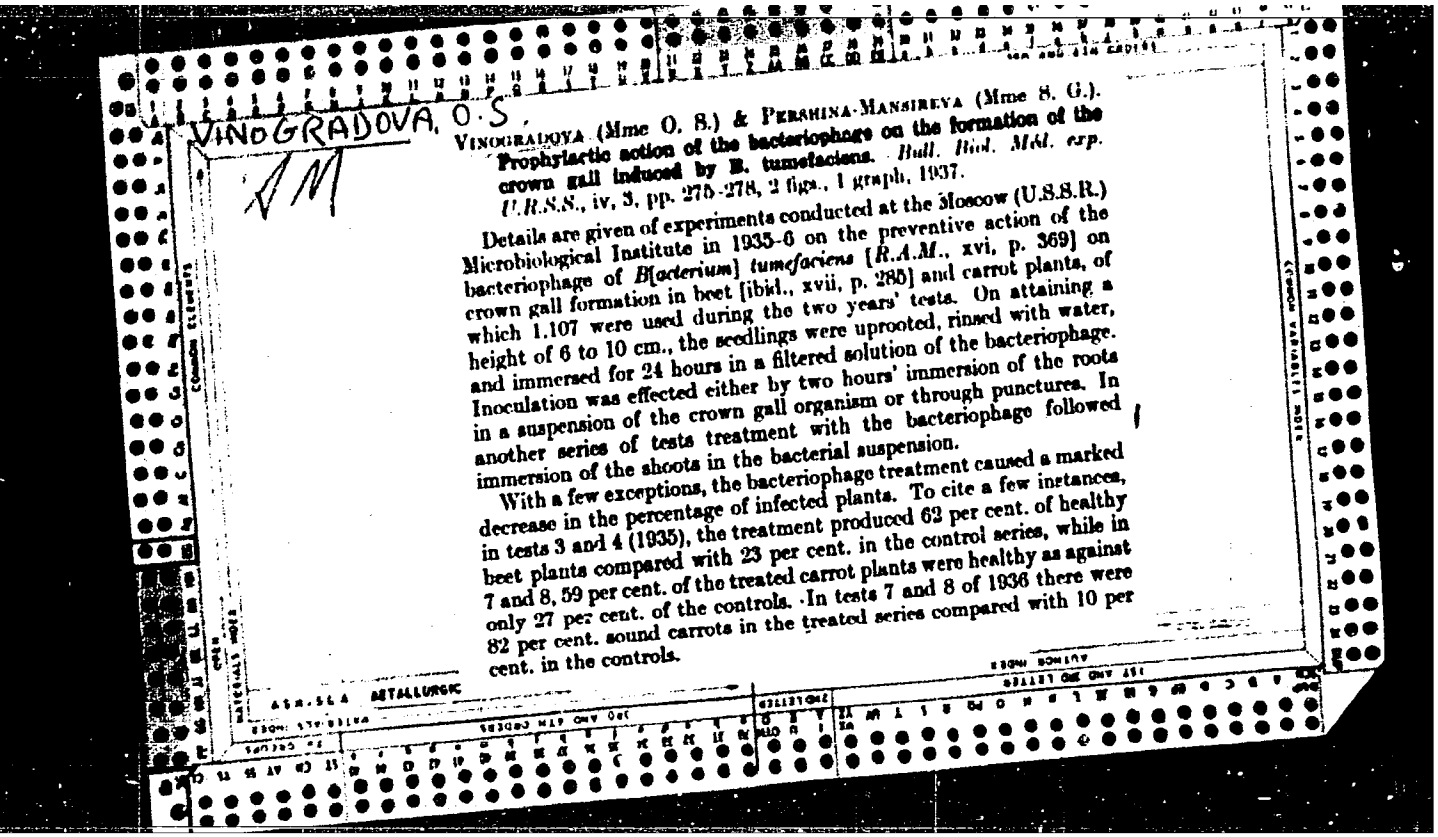
VINOGRADOVA, O.S.

Co

Agencies of the weathering of rocks. D. V. Serdjukov, O. S. Vinogradova and O. A. Plkind. *Trans. State Inst. Testing Building Materials and Glass* (Moscow), No. 34, 3-30(in German 30-2)(1930).—The part played by bacteria in the formation of soils and loess has been studied by the method of Winogradski-Richter. The samples examined were from the vicinity of Berges Magnitnoja (South Ural) where the desert floor consists chiefly of porphyry with some porphyrite and diorite overlaid with a thick alluvial deposit derived from the decompn. of the rocks mentioned, the top layer consisting of an unstratified, carbonate contg., loess like loam showing a general transition with depth (to 17.5 m.) to a plastic clay formation in decomposed kaolinized cryst. rock. The investigations showed the presence of bacteria in all samples of the subsoil including the cryst. matrix. Their no. diminished with the depth—at 17.5 m., 3 million per g., at 1.5 m., 18 million. A sample of loess from the bank of the middle Dnieper in the vicinity of Dnjepropetrowsk showed approx. the same bacterial content. This no. is far greater than that found in ground water. Their biochem. action on surroundings is unquestionably significant, but so far the biology of these organisms has not been investigated. The chem. analysis of the samples showed a certain regular relation between the bacteria content and iron and alk. earth metals in that with increasing depth the iron content increased and alk. earth content decreased, which agrees with the work of Gaussen and others. The action of microörganisms on the weathering of rocks needs further investigation.

R. S. Dean

A58-51A METALLURGICAL LITERATURE CLASSIFICATION



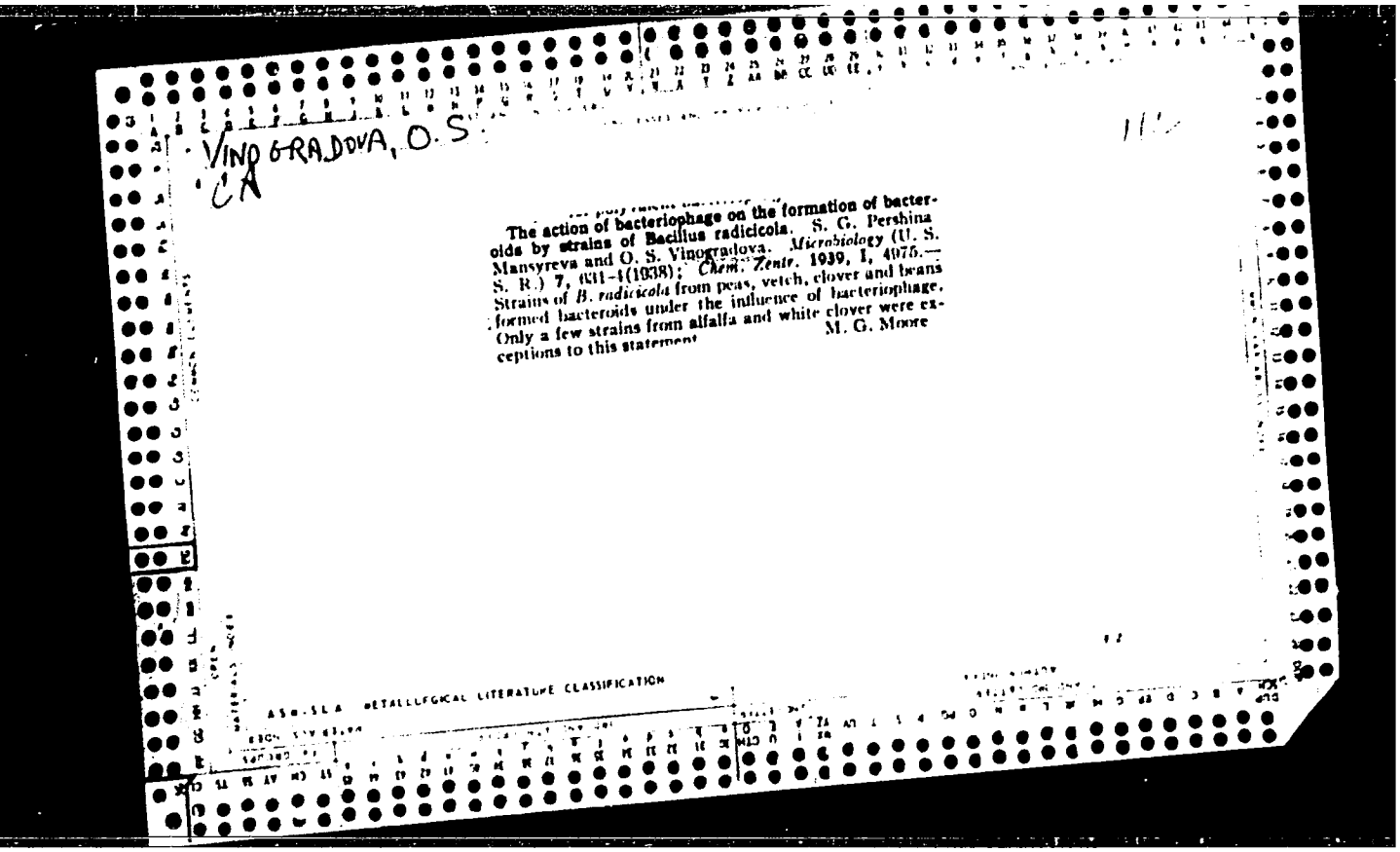
VINOGRADOVA, O.S.

AM

VINOGRADOVA (Mme O. S.) & PERSHINA-MANSIREVA (Mme S. G.). **Prophylactic action of the bacteriophage on the formation of the crown gall induced by B. tumefaciens.** *Bull. Biol. Méd. exp. U.R.S.S.*, iv, 3, pp. 275-278, 2 figs., 1 graph, 1937.

Details are given of experiments conducted at the Moscow (U.S.S.R.) Microbiological Institute in 1935-6 on the preventive action of the bacteriophage of *B[acterium] tumefaciens* [*R.A.M.*, xvi, p. 369] on crown gall formation in beet [ibid., xvii, p. 285] and carrot plants, of which 1,107 were used during the two years' tests. On attaining a height of 6 to 10 cm., the seedlings were uprooted, rinsed with water, and immersed for 24 hours in a filtered solution of the bacteriophage. Inoculation was effected either by two hours' immersion of the roots in a suspension of the crown gall organism or through punctures. In another series of tests treatment with the bacteriophage followed immersion of the shoots in the bacterial suspension.

With a few exceptions, the bacteriophage treatment caused a marked decrease in the percentage of infected plants. To cite a few instances, in tests 3 and 4 (1935), the treatment produced 62 per cent. of healthy beet plants compared with 23 per cent. in the control series, while in 7 and 8, 59 per cent. of the treated carrot plants were healthy as against only 27 per cent. of the controls. In tests 7 and 8 of 1936 there were 82 per cent. sound carrots in the treated series compared with 10 per cent. in the controls.

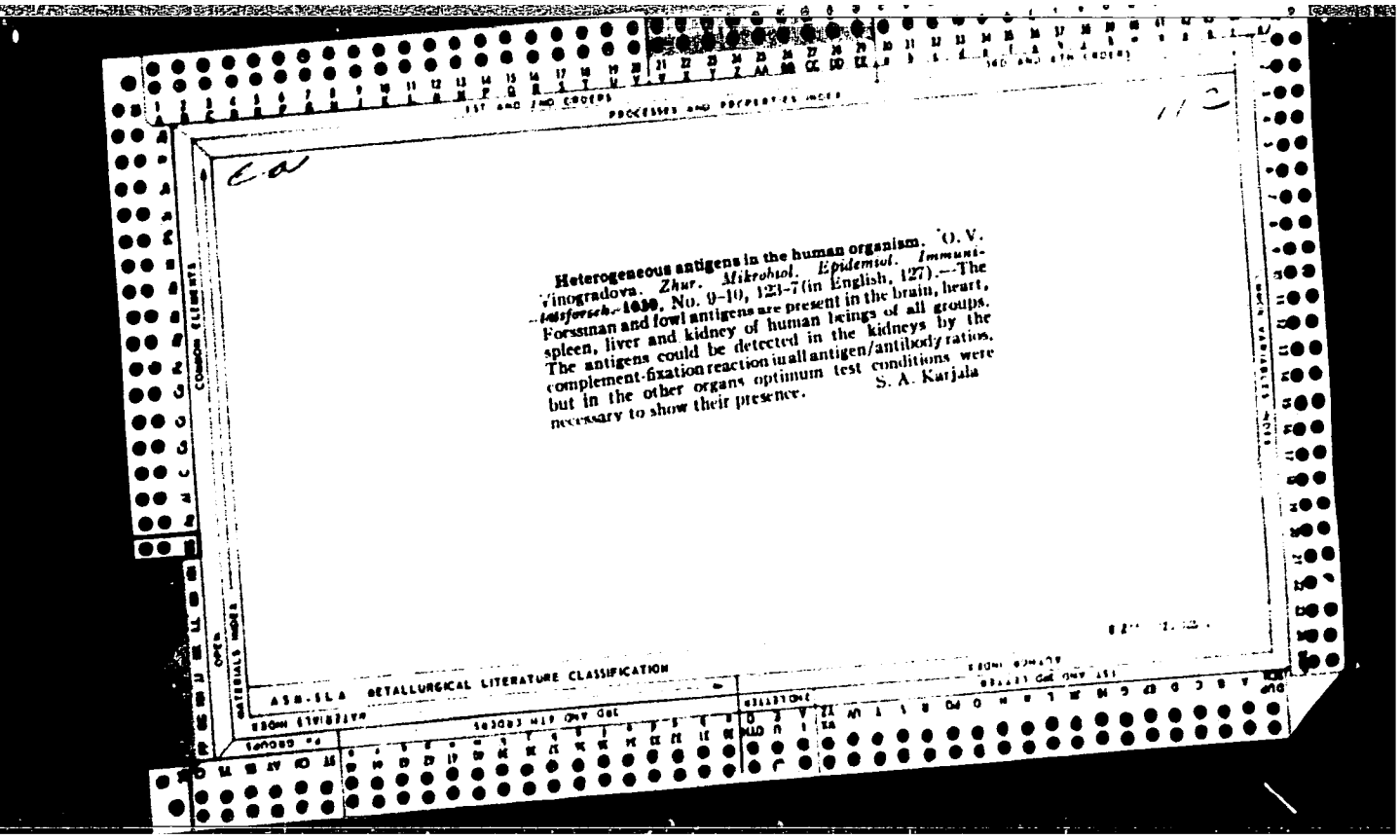


VINOGRADOVA, O.S.

CA

The action of bacteriophage on the formation of bacteroids by strains of Bacillus radicicola. S. G. Pershina Mansyreva and O. S. Vinogradova. *Microbiology* (U. S. S. R.) 7, 631–4(1938); *Chem. Zentr.* 1939, I, 4076.—Strains of *B. radicicola* from peas, vetch, clover and beans formed bacteroids under the influence of bacteriophage. Only a few strains from alfalfa and white clover were exceptions to this statement. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Heterogeneous antigens in the human organism. O. V. Vinogradova. *Zhur. Mikrobiol. Epidemiol. Immunobiologii*, No. 9–10, 123–7 (in English, 127).—The Forssman and fowl antigens are present in the brain, heart, spleen, liver and kidney of human beings of all groups. The antigens could be detected in the kidneys by the complement-fixation reaction in all antigen/antibody ratios, but in the other organs optimum test conditions were necessary to show their presence. S. A. Karjala

VINOGRADOVA, O. V.

"Heterogeneous Antigens in Human Organs," Zhurnal Mikrobiol., 9-10, 123-127, 1939

VINOGRADOVA, O. V.

Mar/Apr 1948

USSR/Medicine - Serum
Medicine - Hemotherapy

"The Mechanism of the Action of the Complex Complement," O. V. Vinogradova, D. L. Ashavskaya, Serol Lab, Cen Dermovenereol Inst, 2½ pp

"Vest Venerol i Dermatol" No 2

Human serum in its complex state was not active component in the compound reaction. For purposes of economy, 2% solution of erythrocytes and 1:5 titrations of hemolysin were compounded. Found addition of human serum to the serum of guinea pigs produced no results.

PA 70T77

VINOGRADOVA, O. V.; ASHAVSKAYA, D. L.

Comparative investigation of new sources of complement. Vest. vener., Moskva no.5:29-32 Sept-Oct 1951. (CIML 21:1)

1. Of the Serological Laboratory of the Central Skin-Venereological Institute.

VINOGRADOVA, O. V;GORDYENKO, N. A.

Quantitative method of complement fixation reaction. Vest. vener., Moskva no.2:38-40 Mar-Apr 1952. (CLML 22:2)

1. Of the Serological Laboratory and the Department of Department of Syphilogy, Central Skin-Venereological Institute.

VINOGRADOVA, P. S.

"Stratification of Sediment on the Bottom of the Bering Sea," Priroda, No 3, 1946 (53-54).
(Meteorologiya i Gidrologiya, No 6 Nov/Dec 1947)

SO: U-3218, 3 Apr 1953

VINOGRADOVA, O. V.; ZASOSOV, V. A.; TAREYEVA, A. I.

Drug therapy for experimental whooping cough infection with 4-4'-di-isobutyrylaminophenyl) sulfone. Zhur. mikrobiol., epid. i immun. 32 no.8:30-34 Ag '61. (MIRA 15:7)

1. Iz Nauchno-issledovatel'skoy laboratorii eksperimental'noy khimioterapii Ministerstva zdravookhraneniya SSSR.

(WHOOPING COUGH) (SULFONES)

VINOGRADOVA, O.V., kand.med.nauk

Preparation 805. Zdorov'e 5 no.3:6 Mr '59. (MIRA 12:3)
(WHOOPING COUGH) (SULFONE)

CHAPLINSKIY, M.B.; SVERDLOV, A.K.; SHLYGINA, K.N.; BELYAYEV, P.A.; DEMCHUK, T.Ya.; VINOGRADOVA, P.A.; TSVIRKO, A.B.; VIGIN, Ye.A.; AGAFONOV, A.I.

Outbreak of an anginous form of erysipeloid. Zhur. mikrobiol., epid. i immun. 41 no.12:119 D '64. (MIRA 18:3)

1. Institut epidemiologii i mikrobiologii imeni Gamalei AMN SSSR.

22406

S/035/61/000/005/002/042
A001/A101

3,1520

AUTHORS: Vinogradova, R.G., Rozhnova, I.A., Tikhomirova, L.N.

TITLE: Harmonic analyzers of frequency spectrum of non-periodic electric oscillations

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 5, 1961, 21, abstract 5A148 ("Sb. rabot po vopr. elektromekhan. In-t elektromekhan. AN SSSR", 1960, no. 4, 276 - 281)

TEXT: The authors describe briefly the eight-channel harmonic analyzer (electric circuit diagrams are presented) which was constructed at MJM(IEM) of AS USSR for studying the frequency spectrum of stellar scintillation with the purpose of determining the optimum frequency of light flux modulation in the automatic star-guidance system of telescopes. This instrument, together with the MPO-2 (MPO-2) oscillograph, provides for the wide possibilities of studying various fluctuation processes. The mean, maximum and envelope amplitudes of harmonics can be determined on the basis of oscillograms. The time of frequency spectrum analysis amounts to a few tenths of a second. The error of the instrument (measurements) does not exceed 10%.

S. Zhuravlev

[Abstracter's note: Complete translation]

Card 1/1

VINOGRADOVA, R.G.

Data for the differential diagnosis of cancer and tuberculosis of the lungs. Probl.tub. 38 no.1:19-27 '60. (MIRA 13:10)
(TUBERCULOSIS) (LUNGS—CANCER)

S/573/62/000/007/004/015
D201/D308

3,1710

AUTHORS: Vinogradova, R.G. and Myasnikov, V.A.

TITLE: Investigation of position data transducers for digital telescope control systems

SOURCE: Akademiya nauk SSSR. Institut elektromekhaniki. Sbornik rabot po voprosam elektromekhaniki. no. 7, 1962. Avtomatizatsiya, telemekhanizatsiya i priborostroyeniye, 180-191

TEXT: This is a review of results of investigations at the Institut elektromekhaniki AN SSSR (Institute of Electrical Engineering of the AS USSR). The object was to determine the possibilities of applying the existing types of position data transducers in sampled data control of astronomical instruments. The following coding systems were investigated: binary coding disc (normal and modified by R.H. Barker (Proc. IEE, v. 103, 4B, no. 7, 1956)): feedback transducers producing the grey reflected code; the pulse-digital position angle transducers and in particular the Ferranti (U.K.) lathe pulse control method; the Austin (USA) position data

Card 1/2

transducer and finally a version of the latter as developed by the Institute of Electrical Engineering of AS USSR, in which the strobing pulses are formed by two photo-optical heads: one fixed and the other rigidly attached to the revolving shaft. The Austin type of transducer is liable to produce statistical errors owing to the complexity of the electronic components. The modified type has the associated electronic circuitry composed virtually of a single counter-register and of a frequency multiplier only. There are 6 figures.

VINOGRADOVA, R.G.; MYASNIKOV, V.A.

Study of position transducers for use in digital control systems of telescopes. Sbor.rab.po vop.elektromekh. no.7:180-191 '62. (MIRA 16:1)
(Automatic control) (Telescope)

29490 S/035/61/000/009/014/036
A001/A101

3.1240 (1051,1166)

AUTHOR: Vinogradova, R. G.

TITLE: Results of experimental investigations of the frequency spectrum of stellar scintillations at the Crimean Astrophysical Observatory in 1957

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 9, 1961, 31, abstract 9A245 ("Tr. Soveshchaniya po issled. mertsaniya zvezd". 1958, Moscow-Leningrad, AN SSSR, 1959, 135-144. Discuss., 181-182)

TEXT: The author considers the results of activities of the Institute of Electromechanics, AS USSR, on developing the method for determining frequency spectrum of scintillations in connection with investigating systems for automatic guidance (tracking) of telescopes on a star. Distribution of scintillation intensity in frequency spectrum represents often a factor determining the selection of modulation frequency of the light flux. An eight-channel analyzer was used to decompose into harmonics the composite, aperiodic, unstationary electric oscillation (being such at photoelectrical registration of stellar scintillations) it is used for simultaneous analysis to reduce time of recording and to make it

Card 1/2

Results of experimental investigations ...

possible to investigate simultaneously at several frequencies. Oscillograms of harmonic components of scintillations in the range from 5 to 500 cps are presented. Experimental studies of spectrum distribution of stellar scintillations and in dependence on zenith distance, were conducted at the Crimean Astrophysical Observatory with an АЗТ-7 (AZT-7) telescope with diameter of the input aperture of 200 mm and focal length of 2 m. An analyzer of infrasonic frequencies constructed at the L'vov Polytechnic Institute and an АСЧХ-1 (ASChKh-1) neterodyne-type analyzer (range from 20 to 20,000 cps) were used for observations. The results of investigations show that frequency not below 70 - 100 cps can be recommended for modulation of light flux at automatic telescope guidance. Frequency characteristics as a function of zenith distance were found during the investigation. The block-diagram of an experimental installation for determining the frequency of stellar scintillations is presented. The influence of meteorological conditions and zenith distance of the star being observed on the image quality is pointed out.

L. Zhukova, T. Aslanov

[Abstracter's note: Complete translation]

Card 2/2

VINOGRADOVA, R.G.

Differential diagnosis of cancer and tuberculosis of the lung. Sov. med. 25 no.5:49-55 My '62. (MIRA 15:8)

1. Iz diagnosticheskogo otdeleniya Nauchno-issledovatel'skogo instituta tuberkuleza Ministerstva zdravookhraneniya RSFSR (dir. - kand.med.nauk V.F.Chernyshev, zamestitel' direktora po nauchnoy chasti- prof. D.D.Aseyev).
(LUNGS—CANCER) (TUBERCULOSIS)

VINOGRADOVA, R. G., CAND MED SCI, "~~MATERIAL ON~~ Data for DIFFERENTIAL DIAGNOSIS OF CANCER AND TUBERCULOSIS OF THE LUNGS." MOSCOW, 1961. (FIRST MOSCOW ORDER OF LENIN MED INST IMENI I. M. SECHENOV). (KL-DV, 11-61, 227).

VINOGRADOVA, R.G.

PHASE I BOOK EXPLOITATION SOV/4567

Soveshchaniye po issledovaniyu mertsaniya zvezd, Moscow, 1958

Trudy Soveshchaniya po issledovaniyu mertsaniya zvezd, Moskva, 18-20 iyunya 1958 g. (Conference on the Study of Star Scintillation) Moscow, Izd-vo AN SSSR, 1959. Errata slip inserted. 1,000 copies printed.

Editorial Board: A. M. Obukhov, Corresponding Member, Academy of Sciences USSR; Resp. Ed.: O. A. Mel'nikov, Professor; I. G. Kolchinskiy, Candidate of Physical and Mathematical Sciences; N. I. Kucherov, Candidate of Physical and Mathematical Sciences; Secretaries of the Editorial Board: N. V. Bystrova, Candidate of Physical and Mathematical Sciences; M. A. Kallistratova and L. N. Zhukova; Tech. Ed.: N. E. Zendel'.

PURPOSE: This book is intended for astronomers. It may be of interest to physicists studying the atmosphere and designers of astronomical equipment.

COVERAGE: The book reports on the transactions of the Conference on the Study of Stellar Scintillation, held in Moscow from 18 to 23 June 1958. The Conference was organized by the Astronomical Council AS USSR and the Institute of Physics of the Atmosphere AS USSR. The book contains summaries of 23 reports read at the Conference, treating stellar scintillation and flickering of star images. Included individual reports deal with methods and instruments of observation. Included are brief summaries of the discussions which followed each session, and the resolution adopted by the Conference. References follow individual articles.

Card 7/9

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001860010003-2"

ASEYEV, D.D., prof.; AL'TSHULER, N.S., kand.med.nauk; SAFONOV-CHABOVSKIY, M.G.; VINOGRADOVA, R.G., kand.med.nauk

Clinical recovery of adult pulmonary tuberculosis patients. (MIRA 17:9)
Probl. tub. 41 no.10:15-21 '63.

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - kand.med.nauk T.P.Mochalova, zamestitel' direktora po nauchnoy chasti-prof. D.D.Aseyev) Ministerstva zdravookhraneniya RSFSR.

NECHAYEV, Ye.V., kand. tekhn. nauk; VINOGRADOVA, R.I., inzh.; CHAPLYGIN, G.F., inzh.

Experience in the operation of SU-20-39 boilers with PMZ-LTsR and PMZ-ChTsR furnaces. Prom. energ. 20 no.5:22-26 My '65. (MIRA 18:7)

VINOGRADOVA, R.P. [Vynohradova, R.P.]

Effect of ionizing radiations on the metabolism of phosphoproteins. Ukr. biokhim. zhur. 33 no.4:489-498 '61. (MIRA 15:6)

1. Department of Biochemistry and Biophysics of the T.G. Shevchenko State University of Kiev.
(RADIATION--PHYSIOLOGICAL EFFECT)
(PHOSPHOPROTEINS)

VINOGRADOVA, R.P. [Vynohradova, R.P.]

Content, phosphoprotein phosphoserine regeneration and phosprotein phosphatase activity in the liver during starvation and subsequent fattening up of animals. Ukr. biokhim. zhur. 37 no.1:24-32 '65.
(MIRA 18:5)

1. Department of Animal Biochemistry of T.G.Shevchenko State University, Kiyev.

VINOGRADOVA, R.P. [Vynohradova, R.P.]

Effect of ionizing radiation on the activity of the enzyme phosphoprotein phosphatase. Visnyk Kyiv. un. no.2. Ser. biol. no.2:88-91'60. (MIRA 16:8)
(X-RAYS—PHYSIOLOGICAL EFFECT) (PHOSPHOPROTEIN PHOSPHATASE)

VINOGRADOVA, R.P. [Vynohradova, R.P.]

Effect of adenosine triphosphoric acid on the phosphoprotein metabolism of the liver in radiation injury. Ukr. biokhim. zhur. 35 no.2:274-281 '63. (MIRA 17:9)

1. Department of Biochemistry and Biophysics of the T.G.Shevchenko State University, Kiev.

DRALYUK, Boris Naumovich; SINAYSKIY, German Vladimirovich. Prinimali uchastiye: MISHIN, Yu.A., inzh.; VINOGRADOV, L.G., inzh.; VINOGRADOVA, S.I., inzh.; VOROB'YEV, S.A., retsenzent; SYRCHINA, M.M., red.izd-va; TURKINA, Ye.D., tekhn.red.

[Strip thickness regulator on a continuous cold rolling mill] Reguliator tolshchiny polosy na nepreryvnom stane kholodnoi prokatki. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1961. 76 p. (MIRA 14:6)

(Automatic control) (Rolling (Metalwork))

FAYZULLIN, V.Kh.inzh.; KASHINTSEV, V.V., inzh.; Prinimali uchastiye:
MISHIN, Yu.A.; VINOGRADOV, L.G.; VINOGRADOVA, S.I.

Method of reducing thickness variations in cold-rolled strip.
Stal' 22 no.3:249-252 Mr '62. (MIRA 15:3)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Rolling (Metalwork)) (Automatic control)

BUYKO, Petr Mikhaylovich, 1895-1943; VINOGRADOVA, S.P., redaktor

[Clinical aspects and prevention of ruptures of the perineum in childbirth] Klinika i profilaktyka rozryviv promezyny pry rodakh. Kyiv, Derzh.med.vyd-vo URSR, 1951. 100 p. (Biblioteka likarya, 5)
(PERINEUM--RUPTURE) (MLRA 10:8)

VINOGRADOVA, S.P.; TIMOSHENKO, L.V.

Importance of the investigation of electric potentials of the active points of the skin in obstetrical work practice. Fiziol. zhur. (Ukr.) 1 no.1:104-108 Ja-F '55. (MLRA 9:9)

1. Ukrains'kiy institut okhoroni materinstva i ditinstva imeni P.M.Buyka.
(SKIN) (ELECTROPHYSIOLOGY) (OBSTETRICS)

VINOGRADOVA, S.P., red.

[Hypogalactia; a collection of studies by institutes for the protection of mother and child, department of obstetrics and gynecology, and pediatric departments of medical schools] Gipogalaktiia. Kiyev, 1957. 214 p. (MIRA 12:1)
(LACTATION)

USSR/Farm Animals. Horses. Q

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92516.

Author : Vinogradova, O.N.
Inst : Latvian Agricultural Academy.
Title : Sensory Innervation of the Ileocecal Region of the Intestines in Horses.

Orig Pub: Tr. Latv. s.-kh. akad., 1956, vyp. 5, 209-219.

Abstract: Intermuscular, submucous and subserous nerve plexi are strongly developed, especially the intermuscular plexus. The nerve ganglions of this plexus can be differentiated from one another only with great difficulty, since the bundles of medullated and unmyelinated fibers which connect one ganglion with another are saturated with neurons. In the intermuscular plexus, closely associated with the submucous plexus,

Card : 1/4

USSR/Farm Animals. Horses. Q

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92516.

ine finds neurons of the first and second type of Dogel, barely differentiated nerve cells of the neuroblast type and nerve cells of the type of spiral sensory neurons. Medullated nerve fibers form plexi in the interstitial connective tissue, which entwine the bodies and processes of ganglion neurons. Non-medullated fibers are located around the bodies of neurons, terminating in rounded ansae on the cell surfaces and in connective tissue. The ending of the plexus of the ileocecal sphincter consists of medullated and unmyelinated fibers and it forms ansae, flexures, and glomeruli in the interstitial tissue of the ganglion. In the interstitia of the submucous plexus ganglion in the ileocecal region a cluster-like

Card : 2/4

USSR/Farm Animals. Horses. Q

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92516.

receptor was discovered, which represented a ramification of medullary fiber. Sensory endings were found which ranged from simple antenna-like ramifications to complex receptor structures. In the ganglions of the ileocecal region unipolar pyriform or oval neurons with a large round nucleus were found. The axon of such a cell emerges from a ganglion and can be traced for a considerable distance, sometimes dividing into two branches (rami) which enter into nerve bundles and diverge in opposite directions, ending in smooth muscles and in connective tissue. Nerve cells also occur, the dendrite processes of which branch into fine unmyelinated ramuli can be found in the smooth muscular and connective

Card : 3/4

USSR/Farm Animals. Horses. Q

Abs Jour: Ref Zhur-Biol., No 20, 1958, 92516.

tissues of the intestinal walls. -- I.B. Barabash.

Card : 4/4

NIKOLAYEV, A.P., otv. red.; SHKOL'NIK, B.I., kand. med. nauk, red.; BAKSHEYEV, N.S., prof., red.; VINOGRADOVA, S.P., prof., red.; GRISHCHENKO, I.I., prof., red.; KORNILOVA, A.I., kand. med. nauk, red.; KONSTANTINOV, V.A., prof., red.; MEDYANIK, R.V., red.; PAP, A.G., kand. med. nauk, red.; PETERBURGSKIY, F.Ye., prof., red.; SAVITSKIY, V.N., prof., red.; STEPANKOVSKAYA, G.S., kand. med. nauk, red.; TIMOSHENKO, L.V., dots., red.; YANKELEVICH, Ye.Ya., prof., red.

[Transactions of the Third Congress of Obstetricians and Cynecologists of the Ukrainian S.S.R.] Trudy III s"ezda akusherov-ginekologov Ukrainskoi SSR. Kiev, Gosmedizdat, 1962. 370 p. (MIRA 17:5)

1. S"yezd akusherov-ginekologov Ukrainskoy SSR. 3d, Kharkov, 1961. 2. Deystvitel'nyy chlen AMN SSSR (for Nikolayev).

DIK, Nikolay Yevgen'yevich; VINOGRADOVA, S.S., red.; MASLENNIKOVA, T.A., tekhn. red.

[M.V.Lomonosov's work and publications on geography] Deiatel'nost' i trudy M.V.Lomonosova v oblasti geografii. Moskva, Izd-vo Mosk. univ., 1961. 209 p. (MIRA 14:10)
(Geography) (Lomonosov, Mikhail Vasil'evich, 1711-1765)

MAMAYEV, Oleg Ivanovich; FEDOROV, K.N., kand. geogr. nauk, retsenzent; DOBROVOL'SKIY, A.D., prof., red.; VINOGRADOVA, S.S., red.; LAZAREVA, L.V., tekhn. red.

[Zero dynamic surface of the world ocean] Nulevaia dinamicheskaia poverkhnost' Mirovogo okeana. Pod red. A.D.Dobrovol'skogo. Moskva, Izd-vo Mosk. univ., 1962. 218 p. (MIRA 15:3)
(Ocean currents)

VINOGRADOVA, S. V.

V. V. Korshak and S. V. Vinogradova, High molecular compounds. 36. The importance of acidolysis in the reaction of polyesterification. P. 179.

Inst. of Organic Chem.
Acad. of Sci., USSR.
March 20, 1950.

SO: Bulletin of the Acad. of Sciences, Izvestia (USSR) Section on Chemical Sciences, No. 2. (March-April 1951).

VINOGRADOVA, S. V.

PA 174T10

USSR/Chemistry - Plastics Jan/Feb 51

"From the Field of High-Molecular Compounds: Report 35. Significance of Alcoholysis in Reaction of Polyesterification," V. V. Korshak, S. V. Vinogradova, Inst Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1, pp 63-69

Investigates kinetics of alcoholysis of ethyl stearate with cetyl alc. Finds reaction is accelerated with increase in temp and in

LC 174T10

USSR/Chemistry - Plastics (Contd) Jan/Feb 51

presence of alk or acid catalysts. Results prove alcoholysis occurs and plays essential role in polycondensation of glycols with dicarboxylic acids.

LC 174T10

C.A.

10

Studies in the field of high-molecular compounds — XXXVII. Role of the exchange reaction between esters in the polyesterification process V. V. Korshak and S. V. Vinogradova (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1951, 331-8; cf. C.A. 45, 8975g.—The rate of the ester exchange reaction, $C_{17}H_{35}CO_2Et$ (stearate) + $AcOC_{16}H_{33}$ (cetyl) $\rightarrow$ $C_{17}H_{35}CO_2C_{16}H_{33}$ + AcOEt, was investigated by extn. of AcOEt with H_2O. With equimol amts. of the 2 esters, and with H_2SO_4 (1% of the wt. of the stearate) as a catalyst, the amts. of AcOEt formed were: at 121°, in 1, 2, 4, 6 hrs., 18.3, 21.2, 30.4, 30.7%; at 168-9°, in 1, 2, 3, 4, 5, 6 hrs., 21.7, 26.9, 33.4, 40.0, 48.7, 48.7%; at 183-4°, in 1, 2, 3, 4, 5 hrs., 26.8, 41.0, 51.5, 52.5, 54.5%; at 250°, in 1, 2 hrs., 32.1, 38.2%; after 2 hrs. at 250°, the reaction mixt. underwent decompn. Without catalyst, at 183-4°, in 1, 3, 5, 6 hrs., 0, 10.3, 13.4, 13.5%; at 250°, in 1, 2, 3, 4, 6 hrs., 4.7, 11.5, 13.8, 14.0, 15.5%. With NaOH (1% of the wt. of the stearate), as a catalyst, at 183-4°, in 1, 2, 3, 4, 5 hrs., 7.0, 10.4, 13.0, 18.7, 25.3%. The equil. const. K, and the rate consts. k_1 and k_2 of the forward and the backward reaction, calcd. from these data, are: with H_2SO_4 as a catalyst, at 183°, K = 0.697, k_1 = 0.288, k_2 = 0.2005; at 168°, 1.100, 0.275, 0.330; at 122°, 3.140, 0.257, 0.805; without catalyst, at 250°, 29.600, 0.080, 2.410; at 183°, 41.000, 0.050, 2.040. The activation energies for the forward and backward reactions, with H_2SO_4, in the range 168-183°, 1379 and −14125 cal./mole; 122-168°, 0 and −935; 122-183°, 116 and −1410, without catalyst, 183-250°, 875 and −1030 cal./mole. Ester exchange reactions play a major role in polyesterification processes.

N. Thon

VINOGRADOVA, S. V.

USSR/Chemistry - High-Molecular Compounds Nov/Dec 51

"High-Molecular Compounds. IXL. Alcoholysis if Polyesters," V. V. Korshak, S. V. Vinogradova, Inst Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 6, pp 756-759

Investigated alcoholysis of polyhexamethlenesebaceate by heating it with varying quantities of cetyl alc. Found that the destruction of polyester is directly proportional to the quantity of cetyl alc. The longest mols are destroyed 1st

cause the greatest deg of destruction. Because of the equil character of the reaction and its reversibility, not all of the cetyl alc is utilized in the destructive reaction.

PA 197T11

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10

Laws of the growth of the chain in polyesterification. V. V. Korshak and S. V. Vinogradova (Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 77, 277-80 (1951). The product of the polycondensation of hexamethylene glycol with sebacic acid at 200°, in a stream of N_2, after 0.5 hr., contained only 33% of the initial reactants, 60.9% of low-mol. polyesters (up to the trimer), and only 6.1% of polyesters with a mol. wt. of about 900 (trimer and higher); the low-mol. ester is a mixt. of $HO(CH_2)_6O_2C(CH_2)_8CO_2H$, $HO(CH_2)_6O_2C(CH_2)_8CO_2(CH_2)_6OH$, $HO_2C(CH_2)_8CO_2(CH_2)_6O_2C(CH_2)_8CO_2H$, and the dimer $HO(CH_2)_6O_2C(CH_2)_8CO_2H$. After 1.5 hrs., the initial products constitute only 16.1%, the amt. of low-mol. polyesters falls to 37.1%, and that of high-mol. polyesters rises to 46.8%. At this stage, formation of the polyesters takes place at the expense of both the monomers and the low-mol. polyesters. The importance of the growth through interaction of lower-mol. polymers increases with the progress of the process. After 3 hrs., this mechanism of chain growth becomes predominant, as evidenced by the fall of the amt. of the low-mol. polymer and of the amt. of free OH and CO_2H groups. At the end of 10 hrs., the mol. wt. of the polyester attains its max. value of about 3500, its yield is 98.1%, and the percentage of the low-mol. polyesters, is only 3.0%. Further heating does not change the mol. wt. Heating at 240° 10 more hrs. under 2 mm. gave only an insignificant increase (150) of the mol. wt. Heating under the same pressure at 200° increased the mol. wt. by 1700. The kinetics of the polycondensation are best represented by a 2nd order law, with a rate const. of 0.10 mm. $^{-1}$ g. $^{-1}$ at 200°. Although, at the late stages, further growth of the chain is due mainly to reactions between polymers, the presence of some amt. of monomer appears to be necessary for it; the growth comes to a halt when the monomer has disappeared altogether, thus, at 200°, after 9 hrs. Heating a completely polymerized mass 10 hrs. in vacuo produces a smaller increase of the mol. wt. than heating for the same length of time, without vacuum, a mass still contg. 1.1% sebacic acid. Consequently, the monomer appears to play the rôle of a catalyst of the polyesterification. This was demonstrated directly by expts. in which the finished polyester was heated with either of the monomers, or both, added. A further increase of the mol. wt. was observed only in the presence of added monomer; sebacic acid is more effective than $HO(CH_2)_6OH$, and an equimol. mixt. of both monomers is even more effective. Addn. of 0.5% camphorsulfonic acid produced an increase of the mol. wt. twice that obtained in 20 hrs. heating at 200°. One of the causes of the cessation of the growth of the mol. wt. is the consumption of the catalyzing monomer. N. Thon

KORSHAK, V.V.; VINOGRADOVA, S.V.

High-molecular compounds. XLIII. Significance of acidolysis and the polyesterification reaction. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52, 193-7 [Engl. translation].
(CA 47 no.19:9913 '53)

VINOGRADOVA, S. V.

Card 1 of 2

USSR/Chemistry - [illegible] Jul 52

"From the Field of Compounds of High Molecular Weight. XLVII. Concerning the Mechanism of Chain Growth in the Process of the Polyesterification and the Reasons for Its Cessation," V. V. Korshak, S. V. Vinogradova, Lab of High-Mol Compds, Inst of Org Chem, Acad Sci USSR

"Zhur Obshch Khim" Vol 22, No 7, pp 1176-1183

The kinetics of the reaction of polyesterification of hexamethylene glycol and sebacic acid was investigated under diverse conditions, and

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also in the presence of admixts of acid and glycol. It was found that at the beginning the fundamental tendency of the reaction was toward the interaction of the initial monomers with one another, with the formation of polyesters of low mol wt. But as the process advanced, the reaction of the mols of the polyester, with each other, gained continually greater prominence, and toward the end this type of chain growth became predominant. It was found that the original monomers play a catalytic role in the process of polyesterification, and the velocity of the reaction diminishes according to the extent of their being spent, becoming virtually zero toward the end because of the absence of monomers. It was

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found that the addn of small amts of monomers to the polyester during the heating of the latter leads to a significant growth of its chain. The monomers, whose exhaustion plays a great role in disrupting the growth of the chain in the reaction of polyesterification, also play an essential catalytic role. It was found that the polyesterification of glycols with dicarboxylic acids proceeds as a reaction of the 2d order (following the initial reaction of hexamethylene glycol and sebacic acid).

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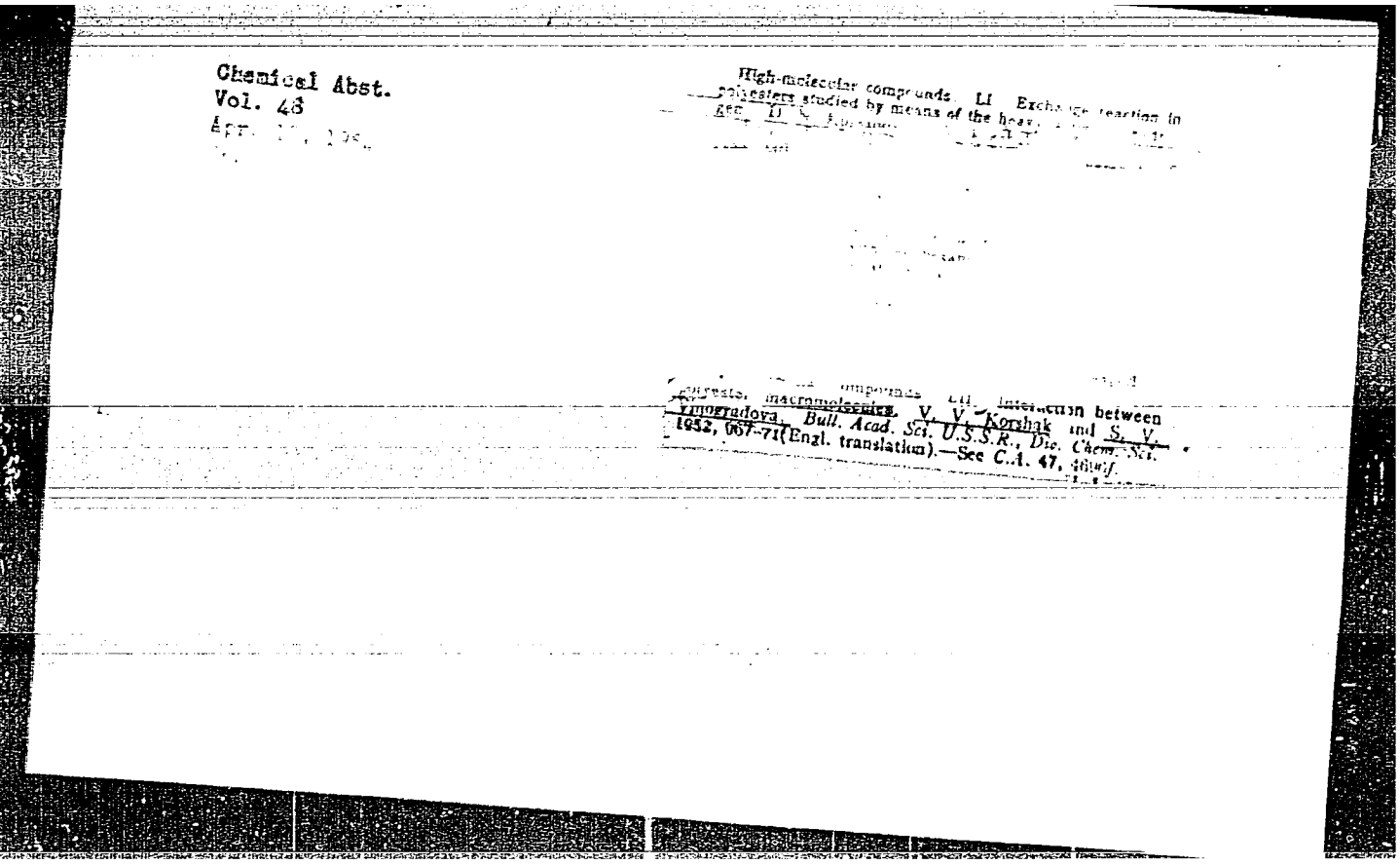


Chemical Abst.
Vol. 48
Apr. [illegible], 195[illegible]

High-molecular compounds. LI. Exchange reaction in polyesters studied by means of the heavy [illegible]

[illegible] compounds. LII. Interaction between [illegible] macromolecules. V. V. Korshak and S. V. Vinogradova. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 667-71 (Engl. translation).—See C.A. 47, 4[illegible]f.

have CO_2H, HO, and EtO end-groups, resp. The polyesters were mixed in binary mixt[illegible]

VINOGRADOVA, S.V.

USSR/Chemistry - High-molecular compounds

Card 1/1 : Pub. 40 - 22/22

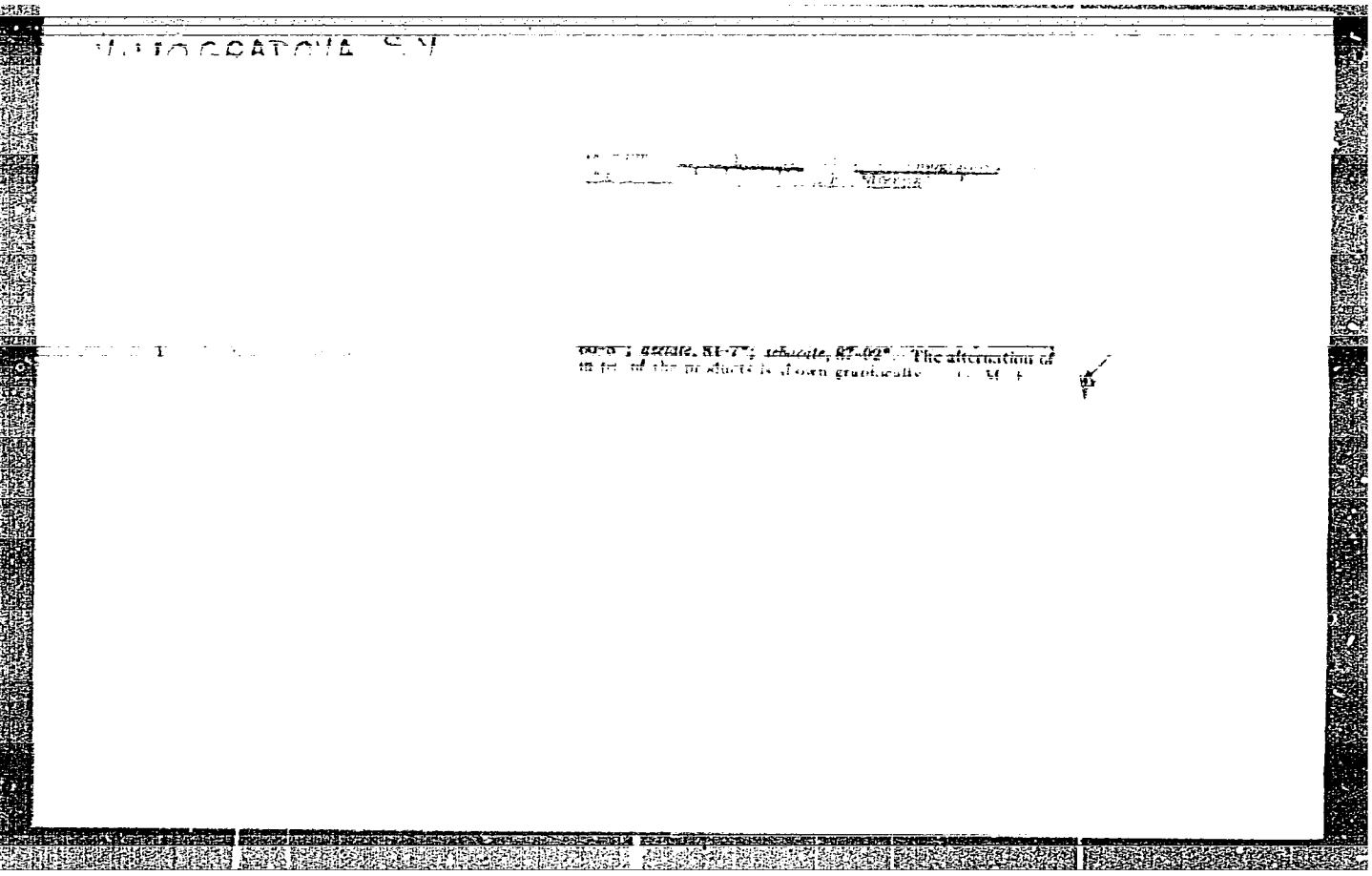
Authors : Korshak, V. V., and Vinogradova, S. V.

Title : From the field of high-molecular compounds. Part 62.- Polycondensation of acid esters of adipic acid and various glycols

Periodical : Izv. AN SSSR. Otd. khim. nauk 5, 951-954, Sep-Oct 1953

Abstract : The polycondensation of acid glycol esters of adipic acid - ethylene glycol diadipinate and eicosandiol - was investigated. It was found that acid glycol esters submit to polycondensation forming poly-esters. The scheme of synthetic reactions of the poly-esterification process is explained. It was established that the growth of the poly-ester chain during poly-esterification is due not only to the reaction of the end groups activated by the reaction of straight esterification but also to the process of re-esterification promoted by the alcoholysis and acidolysis reactions. Twelve references: 11-USSR and 1-USA (1944-1953). Table.

Institution : Academy of Sciences USSR, Institute of Organic Chemistry
Submitted : November 5, 1952



VINOGRADOVA, S. V.

(2) 3

Polyesters of eicosanediol and dicarboxylic acids. V. V. Korshak and S. V. Vinogradova. *Doklady Akad. Nauk S.S.S.R.* 89, 1017–20(1953).—Polyesters of 1,20-eicosanediol (I) and dicarboxylic acids were obtained by direct reaction, except for esters of $(CO_2H)_2$ and $CH_2(CO_2H)_2$ which were prepd. resp. from $(CO_2Et)_2$ and $CH_2(CO_2CHMe_2)_2$. The m.ps. of I *polyesters* are: *oxalate*, 88–90°; *malonate*, 67–9°; *succinate*, 80–9°; *glutarate*, 77–80°; *adipate*, 85–7°; *pimelate*, 81–3°, *suberate*, 86–8°; *azelaate*, 84–7°; *sebacate*, 87–92°. The saw-tooth pattern of even and odd members of the series is pointed out graphically, and the lower m.ps. as compared with polyethylene is explained by greater chain flexibility in the polyesters. G. M. Kosolapoff

VINOGRADOVA, S.V.

62

USSR

High molecular compounds. LXI. Reaction of polyester macromolecules. V. V. Korshak and S. V. Vinogradova (*Izv. Akad. Nauk SSSR, Otdel khim. Nauk*, 1954, No. 2, 370–379).—Polyesters (derived from sebacic acid and hexanediol and diethyl sebacate + ethylene glycol), having terminal hydroxyl groups react with polyesters having terminal carboxyl or ethoxyl groups, but the latter two do not react with each other. High yields of polymer are obtained if the low-molecular product of condensation continuously evaporates, so as to displace the reaction in favour of condensation. The polymers are of fairly high reactivity.

R. C. MURRAY.

VINOGRADOVA, S. V.

USSR/Chemistry - High molecular compounds

Card 1/2 Pub. 40 - 20/27

Authors : Korshak, V. V.; Vinogradova, S. V.; and Vlasova, E. S.

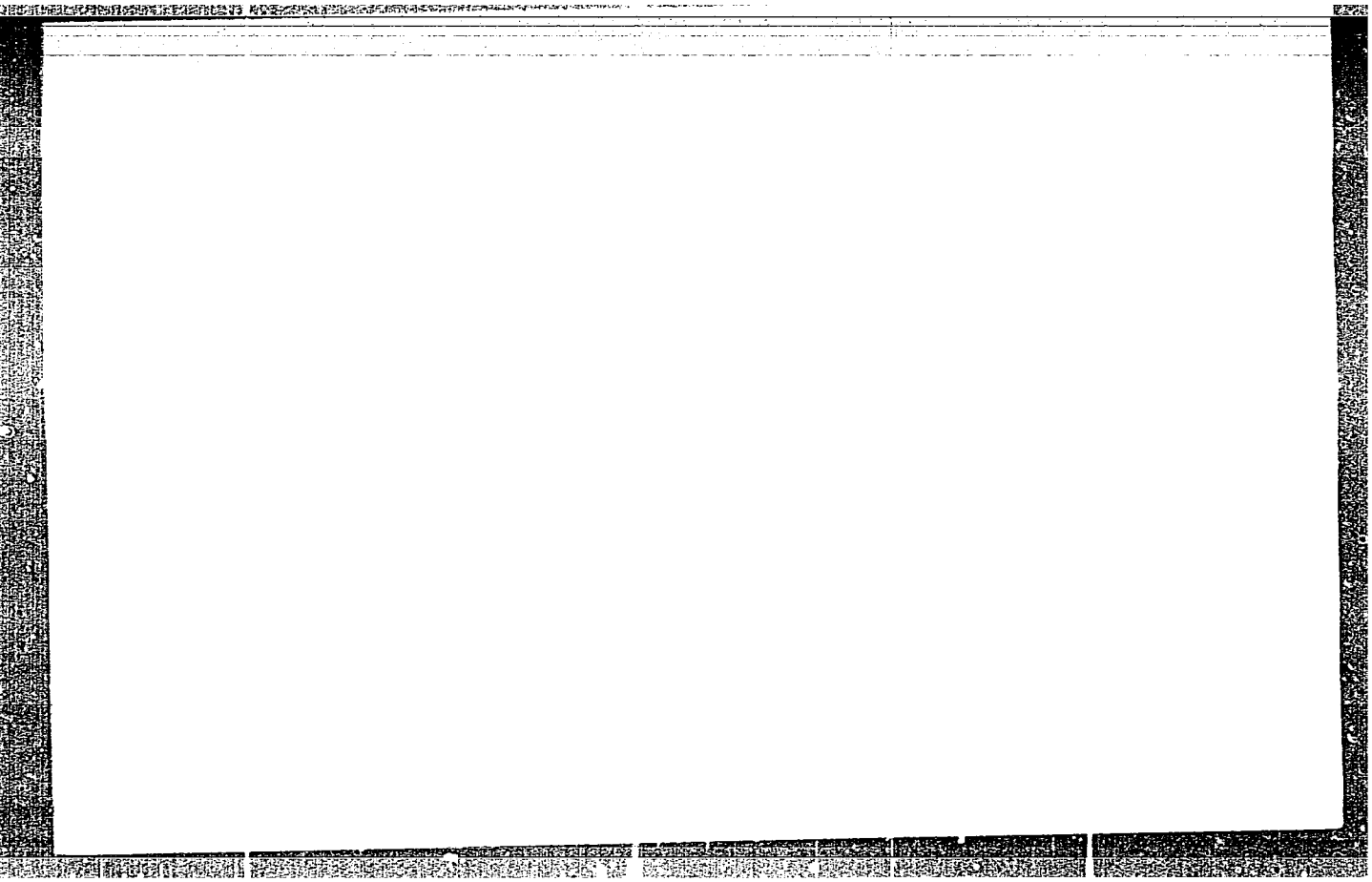
Title : High molecular compounds. Part 67

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 1089-1096, Nov-Dec 1954

Abstract : The characteristics of poly esters of dicarboxylic acids and certain polymethylene glycols were determined by such factors as the change in total number of methylene groups during the conversion from one homologous group member into another and by the mutual orientation of bonds, which also varies during change from acids with even number of atoms to uneven acids.

Institution : Acad. of Sc., USSR, The N. D. Zelinskiy Institute of Organ. Chemistry

Submitted : November 5, 1953



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001860010003-2"

Vinogradova, S.V.

USSR/ Chemistry - High molecular compounds

Card 1/1 Pub. 40 - 21/27

Authors : Korshak, V. V.; Vinogradova, S. V.; and Vlasova, E. S.

Title : High molecular compounds. Part 68

Periodical : Izv. AN SSSR. Otd. khim. nauk 6, 1097-1102, Nov-Dec 1954

Abstract : The derivation of poly esters of diethylene glycol, triethylene glycol and propylene glycol with dicarboxylic acids is described. The effect of the structure of the basic substances on the melting point and solubility of the synthesized esters was evaluated. The effect of ethereal oxygen and side chain on the properties of poly esters was investigated and it was found that the introduction of a methyl side group into the poly ester molecule produces an effect analogous to the introduction of three or four ether bonds which sharply reduces the crystallinity of the ester and the melting point and increases the solubility. Three USSR references (1953 and 1954). Table; graphs.

Institution : Acad. of Sc. USSR, The N. D. Zelinskiy Institute of Organ. Chemistry

Submitted : November 5, 1953

VINOGRADOVA, S. V.

AID P - 270

Subject : USSR/Chemistry

Card : 1/1

Authors : Korshak, V. V. and Vinogradova, S. V. (Moscow)

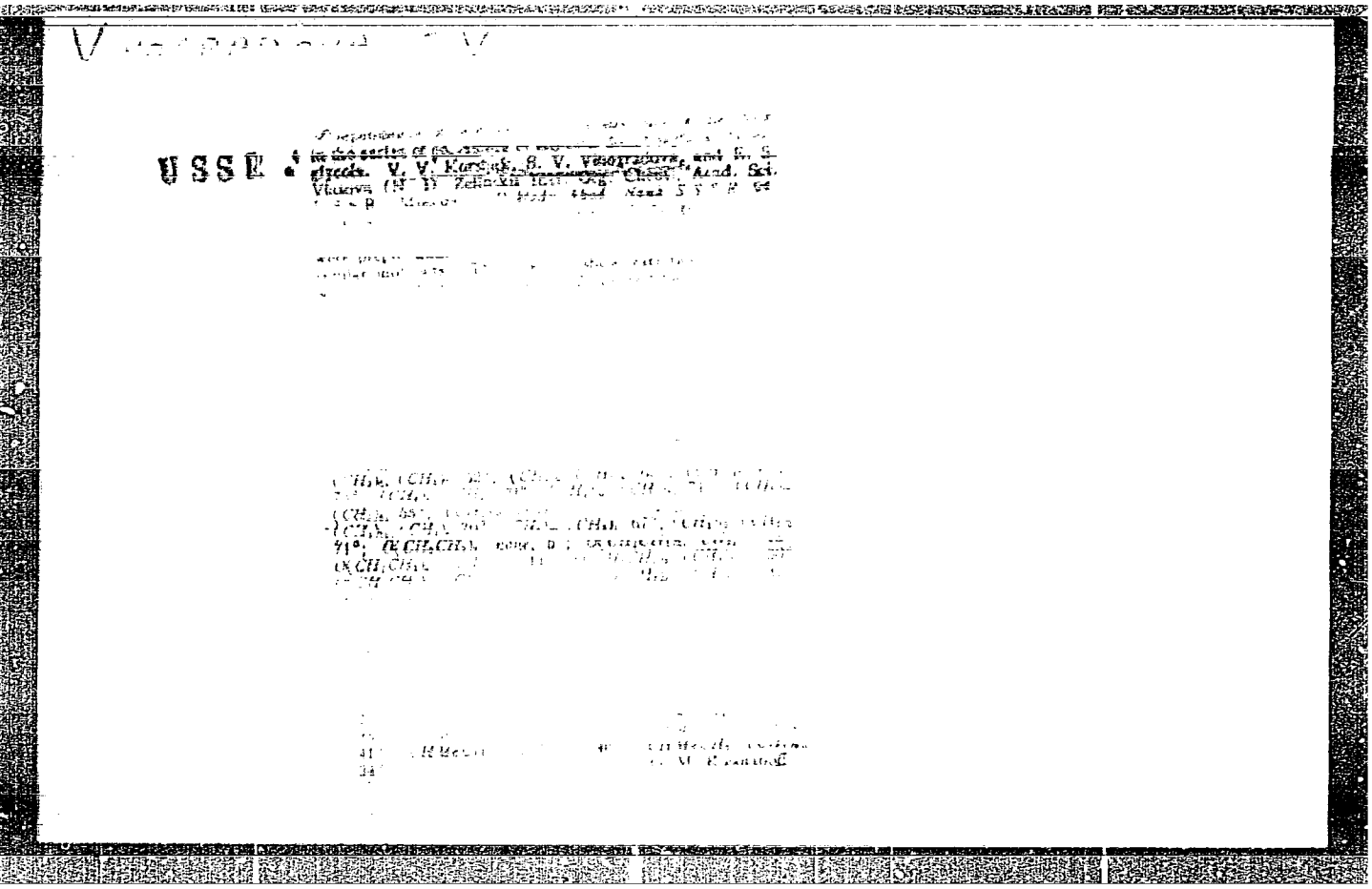
Title : Linear polyesters

Periodical : Usp. khim. 23, No. 3, 314-376, 1954

Abstract : The classification of polyesters; methods of preparation of linear polyesters; their characteristics and uses are reviewed. Fourteen tables. Fifty three diagrams. One flow sheet. 331 references (101 Russian); 1833-1954.

Institution : None

Submitted : No date



VINOGRADOVA, S.V.

11

High molecular weight compounds. LXXIX. Products of polycondensation of dialdehydes and diketones with diamines and glycols. V. V. Korshak and S. V. Vinogradova. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1955, 811 (Engl. translation). LXXX. A case of migrational copolymerization. *Ibid.* 845-7. LXXXI. Mixed polyamides containing glutaric and pimelic acids. V. V. Korshak and T. M. Frunze. *Ibid.* 849-54. LXXXII. 2,4,5-Triisopropyl-α-methylstyrene. V. V. Korshak and N. G. Matveeva. *Ibid.* 855-6.—See *C.A.* 50, 9325*f*. B. M. R.

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